

AMENDMENTS TO THE CLAIMS

Please amend the claims of this application as follows:

Claims 1-47 (Cancelled).

48. (Currently amended) A method for determining properties of an encapsulated electrophoretic display ~~mediamedium~~, comprising the steps of:

- (a) providing an encapsulated electrophoretic display ~~mediamedium~~ comprising a plurality of ~~cavities~~voids dispersed in a polymeric matrix, wherein at least one of said plurality of ~~cavities~~voids contains an electrophoretic contrast ~~mediamedium~~ phase that includes at least one particle and a suspending fluid;
- (b) providing a first electrode and a second electrode, said first and second electrodes lying adjacent ~~to~~ said plurality of ~~cavities~~voids;
- (c) applying a first electrical signal to said first electrode;
- (d) applying a second electrical signal to said second electrode; and
- (e) measuring a first electrical characteristic of said encapsulated electrophoretic display ~~mediamedium~~, said first electrical characteristic generated in response to said applied first and second electrical signals.

49. (Previously presented) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by a time constant.

50. (Previously presented) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by a current.

51. (Currently amended) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by a voltage.

52. (Currently amended) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by a capacitance.

53. (Currently amended) The method of claim 48 further comprising deducing a second electrical characteristic of said encapsulated electrophoretic display ~~mediamedium~~ based on said measured first electrical characteristic.

54. (Currently amended) The method of claim 53 wherein said second electrical characteristic is resistivity of said encapsulated electrophoretic display ~~mediamedium~~.

55. (Currently amended) The method of claim 54 further comprising measuring a first environmental factor of said encapsulated electrophoretic display ~~mediamedium~~ using an external sensor.

56. (Currently amended) The method of claim 55 further comprising determining a second environmental factor of said encapsulated electrophoretic display ~~mediamedium~~ based on said resistivity and said measured first environmental factor.

57. (Previously presented) The method of claim 56 wherein one of said first and second environmental factors is temperature and the other is humidity.

58. (Currently amended) A method for determining properties of an encapsulated electrophoretic display ~~mediamedium~~, comprising the steps of:

- (a) providing an encapsulated electrophoretic display ~~mediamedium~~ comprising a plurality of pixels, each pixel comprising at least one ~~ea~~vityvoid dispersed in a polymeric matrix, wherein said at least one ~~ea~~vityvoid contains an electrophoretic contrast ~~mediamedium~~ phase that includes at least one particle and a suspending fluid;
- (b) providing a first electrode, said first electrode common to and adjacent ~~[[to]]~~each of said plurality of pixels;
- (c) providing at least one measurement pixel of said plurality of pixels, said at least one measurement pixel having a measurement electrode adjacent thereto;
- (d) applying a first electrical signal to said first electrode;
- (e) applying a second electrical signal to said measurement electrode; and
- (f) measuring a first electrical characteristic of said at least one measuring pixel, said first electrical characteristic generated in response to said applied first and second electrical signals.

59. (Previously presented) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by a time constant.

60. (Previously presented) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by a current.

61. (Currently amended) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by a voltage.

62. (Currently amended) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by a capacitance.

63. (Currently amended) The method of claim 58 further comprising calculating an aggregate first electrical characteristic of said encapsulated electrophoretic display ~~mediamedium~~ using measured first electrical characteristics of each of said at least one measurement pixel.

64. (Previously presented) The method of claim 58 further comprising deducing a second electrical characteristic of said at least one measurement pixel based on said measured first electrical characteristic.

65. (Previously presented) The method of claim 64, wherein said second electrical characteristic is resistivity of said at least one measurement pixel.

66. (Currently amended) The method of claim 64 further comprising calculating an aggregate second electrical characteristic of said encapsulated electrophoretic display ~~mediamedium~~ using deduced second electrical characteristics of each of said at least one measurement pixel.

67. (Currently amended) The method of claim 64 further comprising measuring a first environmental factor of said encapsulated electrophoretic display ~~mediamedium~~ using an external sensor.

68. (Currently amended) The method of claim 67 further comprising determining a second environmental factor of said encapsulated electrophoretic display ~~mediamedium~~ based on said resistivity and said measured first environmental factor.

69. (Currently amended) The method of claim 68 wherein one of said first and second environmental factors is temperature, and the other is humidity.

70. (Currently amended) A method for detecting a change in an electrical characteristic of an encapsulated electrophoretic display ~~medi~~medium, comprising the steps of:

- (a) providing an encapsulated electrophoretic display ~~medi~~medium comprising a plurality of pixels, each pixel comprising at least one ~~eavity~~void dispersed in a polymeric matrix, wherein said at least one ~~eavity~~void contains an electrophoretic contrast ~~medi~~medium phase that includes at least one particle and a suspending fluid;
- (b) providing a first electrode, said first electrode being common to and adjacent ~~[[to]]~~each of said plurality of pixels;
- (c) providing at least one measurement pixel of said plurality of pixels, said at least one measurement pixel having a measurement electrode adjacent thereto;
- (d) applying a first electrical signal to said first electrode;
- (e) applying a second electrical signal to said measurement electrode;
- (f) measuring a first electrical characteristic of said at least one measuring pixel, thereby obtaining a first value of said electrical characteristic~~[[;]]~~, said first electrical characteristic being generated in response to said applied first and second electrical signals;
- (g) repeating steps (d)-(f), thereby obtaining a second value of said electrical characteristic; and
- (h) comparing said first and second values of said electrical characteristic thereby detecting a change therein.

71. (Currently amended) An apparatus for determining properties of an encapsulated electrophoretic display ~~medi~~medium, said encapsulated electrophoretic display ~~medi~~medium comprising a plurality of ~~eavities~~voids dispersed in a polymeric

matrix, wherein at least one of said plurality of ~~cavities~~voids contains an electrophoretic contrast ~~mediamedium~~ phase that includes at least one particle and a suspending fluid, and two electrodes adjacent to said plurality of ~~cavities~~voids; said apparatus comprising:

- (a) a signal generator for applying electrical signals to said two electrodes; and
- (b) a detection circuit for measuring a first electrical characteristic of said encapsulated electrophoretic display ~~mediamedium~~ generated in response to said electrical signals.

72. (Currently amended) The apparatus of claim 71, further comprising a processor for deducing a second electrical characteristic of said encapsulated electrophoretic display ~~mediamedium~~ based on said measured first electrical characteristic.

73. (Currently amended) The apparatus of claim 72 wherein said second electrical characteristic is resistivity of said encapsulated electrophoretic display ~~mediamedium~~.

74. (Currently amended) The apparatus of claim 73 further comprising measuring a first environmental factor of said encapsulated electrophoretic display ~~mediamedium~~ using an external sensor.

75. (Currently amended) The apparatus of claim 74 further comprising determining a second environmental factor of said encapsulated electrophoretic display ~~mediamedium~~ based on said resistivity and said measured first environmental factor.

76. (Previously presented) The apparatus of claim 75 wherein one of said first and second environmental factors is temperature, and other is humidity.

77. (Previously presented) The apparatus of claim 71 wherein said detection circuit comprises a capacitance bridge.

78. (Previously presented) The apparatus of claim 71 wherein said detection circuit comprises a circuit capable of measuring time constants.

79. (Previously presented) The apparatus of claim 71 wherein said detection circuit comprises a circuit capable of measuring frequency.

80. (Previously presented) The apparatus of claim 71 wherein said detection circuit comprises a circuit capable of measuring voltage.

81. (Currently amended) An electrophoretic display comprising an encapsulated electrophoretic display ~~medi~~medium comprising a plurality of pixels, each pixel comprising at least one ~~avity~~void dispersed in a polymeric matrix, wherein said at least one ~~avity~~void contains an electrophoretic contrast ~~medi~~medium phase that includes at least one particle and a suspending fluid, ~~and capable of determining properties of individual pixels,~~ said electrophoretic display comprising:

- (a) a first electrode, said first electrode common to and adjacent ~~[[to]]~~ each of said plurality of pixels;
- (b) at least one measurement pixel of said plurality of pixels, said at least one measurement pixel having a measurement electrode adjacent thereto;
- (c) a signal generator for applying electrical signals to said first electrode and said measurement electrode; and
- (d) a detection circuit for measuring a first electrical characteristic of said at least one measurement pixel, said first electrical characteristic generated in response to said applied electrical signals.

82. (Previously presented) The electrophoretic display of claim 81 further comprising a processor for deducing a second electrical characteristic of said at least one measurement pixel based on said measured first electrical characteristic.

83. (Previously presented) The electrophoretic display of claim 82 wherein said second electrical characteristic comprises resistivity of said at least one measurement pixel.

84. (Currently amended) The electrophoretic display of claim 83 further comprising measuring a first environmental factor of said encapsulated electrophoretic display ~~medi~~medium using an external sensor.

85. (Currently amended) The electrophoretic display of claim 84 further comprising determining a second environmental factor of said encapsulated electrophoretic display ~~medi~~medium based on said resistivity and said measured first environmental factor.

86. (Previously presented) The electrophoretic display of claim 85 wherein one of said first and second environmental factors is temperature, and the other is humidity.

87. (Previously presented) The electrophoretic display of claim 81 wherein said detection circuit comprises a capacitance bridge.

88. (Previously presented) The electrophoretic display of claim 81 wherein said detection circuit comprises a circuit capable of measuring time constants.

89. (Previously presented) The electrophoretic display of claim 81 wherein said detection circuit comprises a circuit capable of measuring frequency

90. (Previously presented) The electrophoretic display of claim 81 wherein said detection circuit comprises a circuit capable of measuring voltage.

91. (Currently amended) An input device, comprising

(a) an encapsulated electrophoretic display ~~medi~~medium, said encapsulated electrophoretic display ~~medi~~medium comprising a plurality of pixels, each pixel comprising at least one ~~avity~~void dispersed in a polymeric matrix, wherein said at least one ~~avity~~void contains an electrophoretic contrast ~~medi~~medium phase that includes at least one particle and a suspending fluid, each pixel having a pixel electrode adjacent thereto;

(b) a first electrode, said first electrode common to and adjacent [[to]]each of said plurality of pixels;

(c) a signal generator for applying electrical signals to said first electrode and each of said pixel electrodes;

(d) a detection circuit for measuring a first electrical characteristic of each of said plurality of pixels, said first electrical characteristic generated in response to said applied electrical signals;

(e) a discriminator circuit for detecting a change in said first electrical characteristic of at least one pixel of said plurality of pixels; and

(f) a response generator for generating a response to said change and identifying said at least one pixel.

92. (Previously presented) The input device of claim 91 wherein said first electrical characteristic is a voltage or capacitance.

93. (Previously presented) The input device of claim 91, further comprising a processor for deducing a second electrical characteristic of said at least one pixel based on said measured first electrical characteristic.

94. (Previously presented) The input device of claim 93 wherein said second electrical characteristic is resistivity.